Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of separating multivalent ions and lactate ions from a fermentation broth comprising a multivalent ion lactate salt by using an electrodialysis or electrolysis apparatus, the method comprising:

introducing the broth into a first compartment,

said broth having a multivalent ion concentration of at least 0.1 mole/l,

said broth having a lactate ion concentration of less than 300 g/l,

said broth including negatively charged ion that is not lactate ion in an amount of less than 10 mole% based on a total amount of lactate ion in said broth, and

said first compartment being limited by an anion-selective or non-selective membrane and a cathode;

converting the multivalent ion to obtain a residual stream comprising a hydroxide of the multivalent ion;

transporting the lactate ion through the anion-selective or non-selective membrane into a second compartment,

said second compartment being limited by the anion-selective or non-selective membrane and an anode; and

neutralizing the lactate ion to lactic ~~acid.~~ acid;

wherein the multivalent ion is a multivalent metal ion selected from the group consisting of magnesium, calcium, zinc, iron, aluminum, and mixtures thereof.

2. (Previously Presented) The method according to claim 1 wherein the broth contains per equivalent of lactate ion at least 0.1 equivalent of the multivalent ion.

3. (Previously Presented) The method according to claim 1 wherein the multivalent ion concentration in the broth is 0.1 – 1.5 mole/l.

4. (Canceled)

5. (Previously Presented) The method according to claim 1 wherein the fermentation broth comprises microorganisms.

6. (Previously Presented) The method according to claim 1 wherein the residual stream is recycled to the fermentation broth.

7. (Original) The method according to claim 6 wherein the hydroxide of the multivalent ion is at least partially present as solid in slurry.

8. (Previously Presented) The method according to claim 1 wherein the lactic acid is recycled to the first compartment.

9. (Previously Presented) The method according to claim 1 wherein the anion-selective or non-selective membrane is an anion-selective membrane.

10. (Previously Presented) The method according to claim 1 wherein a second membrane is used within the first compartment being an anion-selective membrane, a non-selective membrane, or a bipolar membrane having its cation-selective side directed to the cathode.

11. (Previously Presented) The method according to claim 1 wherein within the first compartment alternating anion-selective or non-selective membranes and bipolar membranes are used having their cation-selective sides directed to the cathode.

12. (Previously Presented) An electrodialysis or electrolysis apparatus for separating a fermentation broth into a residual stream comprising multivalent ions and lactate ions, comprising a first compartment which is limited by an anion-selective or non-selective membrane and a cathode, which further comprises means for introducing the fermentation broth, and a second compartment limited by the anion-selective or non-selective membrane

and an anode, which further comprises means for removing lactic acid, and optionally means to recycle the residual stream to the fermentation broth.

13. (Original) The electrodialysis or electrolysis apparatus of claim 12 wherein the first compartment further comprises a second membrane being an anion-selective membrane, a non-selective membrane, or a bipolar membrane having its cation-selective side directed to the cathode.

14. (Previously Presented) The electrodialysis or electrolysis apparatus of claim 12 wherein the first compartment comprises alternating anion-selective or non-selective membranes and bipolar membranes having their cation-selective sides directed to the cathode.

15. (Previously Presented) The method according to claim 1, wherein the broth contains per equivalent of lactate ion at least 0.3 equivalents of the multivalent ion.

16. (Previously Presented) The electrodialysis or electrolysis apparatus of claim 12, wherein said anion-selective or non-selective membrane is an anion-selective membrane.